

2024

# Parking Detection Innovation

## Demonstration Project: Solar-Power Parking Detection

**Innovator:** Municipal Parking Services

**Product:** SolarStick™

**Demonstration Period:** October 15 – November 22, 2024



## Executive Summary

The City of Vaughan is testing leading-edge technology to evaluate how innovative solutions can address real-world mobility and transportation challenges.

Through the Ontario Vehicle Innovation Network (OVIN) Demonstration Zone, Municipal Parking Services tested their SolarStick™ parking detection technology to evaluate their solution in front of Michael Cranny Elementary School to evaluate parking behaviours in a no-parking zone.

The OVIN Demonstration Zone is an initiative that is part of Vaughan's Transportation Innovation Program (TIP), which aims to test smart mobility solutions in real-world environments. This demonstration was completed in partnership with **Vaughan's By-Law and Compliance, Licensing and Permit Services** team.

### The Innovator

Municipal Parking Services (*operating as MPS*) is a company that specializes in smart parking enforcement solutions. Their SolarStick™ is a bollard-shaped device equipped with radar and camera technology to detect and document parking violations. Each unit is solar-powered, LTE-connected, and capable of monitoring two on-street parking spaces. The system includes a backend software platform that collects and reports parking session data, enabling targeted enforcement strategies.

### Demonstration Overview

For this demonstration, MPS provided four SolarStick™ units, which were installed on public property in front of Michael Cranny Elementary School. The devices were evaluated for their ability to detect and record parking violations in a designated no-parking zone. The demonstration aimed to assess the reliability of the technology in capturing real-time parking data and its potential to support enforcement operations.

### Key Outcomes

The SolarStick™ units successfully detected and recorded parking sessions and violations with parameters set for a no-parking zone.

- Municipal Parking Services detected 151 parking violations across 30 days at four test areas in front of an elementary school.
- The highest violation occurrences were observed on Thursdays.
- The backend system provided detailed reports that could be used to inform enforcement strategies.
- The MPS dashboard (SentryLink) showcased an ability to configure settings to export report information.
- The MPS analysis system showcased an ability to have flexible parameters to configure the constraints for different types of parking activities.
- The Project Advisory Team provided insights to MPS on municipal operations for routine parking violation practices.

The demonstration provided the City with insights on how AI-powered detection solutions could be potentially incorporated into operations and allowed for an understanding of how it affects our best practices.

### **Exclusions**

Demonstration projects through the OVIN Demonstration Zone are temporary and limited in scope and duration due to the time constraints of the OVIN Demonstration Zone program. The project evaluated key features of Municipal Parking Service's solution, as determined by the Project Advisory Team.

The demonstration did not include testing of the grid-powered version of the SafetyStick™ or the automated violation issuance feature, as these require additional infrastructure and legislative support.

Although the system includes functionality to issue automated parking violations, this feature was not tested due to current legislative limitations in Ontario.

### **Obstacles**

The demonstration was limited in scope and duration. A longer-term trial would be necessary to evaluate the technology's performance in winter conditions and its resilience to snowplowing operations.

### **Conclusions and Recommendations**

The demonstration confirmed the potential of the SolarStick™ technology to enhance municipal parking enforcement. A larger-scale, long-term pilot – potentially including the grid-powered version – would provide further insights into the system's reliability, especially in adverse weather conditions.

This technology could significantly improve a municipality's ability to enforce parking regulations and optimize enforcement resources. The system offers a scalable solution for municipalities, and the solution may reduce traffic congestion, improve enforcement efficiency

To fully activate this technology on municipal infrastructure, regulatory updates would be required to enable automated enforcement.

Demonstration Zone Project Profiles: [www.vaughanbusiness.ca/demozone/projects](http://www.vaughanbusiness.ca/demozone/projects)